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Encouraging physical activity through dog walking: Why don't some owners walk with their dog?

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Abstract

Objective. To identify factors associated with owners not walking with their dog.

Method. Dog owners ($n=629$) taking part in the RESIDE study, Perth, Western Australia completed a self-administered questionnaire in 2005–06 that included items about the dog, dog–owner relationship, dog walking and intrapersonal and environmental factors associated with dog walking. Physical activity data were also collected using NPAQ.

Results. Overall, 23% of dog owners did not walk with their dog. More dog walkers achieved 150 min of physical activity/week than owners who did not walk with their dog (72% vs. 44%, $p<0.001$). Not walking with a dog was significantly more likely in owners who did not perceive that their dog provided motivation (OR 9.60, 95% CI: 4.37, 21.08) or social support (OR 10.84, 95% CI: 5.15, 22.80) to walk, independent of other well-known correlates of physical activity.

Conclusion. There would be a significant impact on community physical activity levels if owners who do not walk with their dog could be persuaded to begin dog walking. Understanding the factors that discourage or facilitate owners to walk with their dog will assist in tailoring interventions designed to encourage both the uptake and maintenance of regular dog walking.

Keywords: Walking; Exercise; Dog ownership; Environment; Neighborhood; Social support; Ecological; Intervention; Community

Introduction

Physical inactivity is associated with lifestyle chronic disease such as type II diabetes, cardiovascular disease and mental illness (Blair et al., 1989; Brown et al., 2005; US Department of Health and Human Services, 1998). New approaches to increasing population levels of physical activity are needed. One such potential under-utilized resource lies patiently, wagging its tail in eagerness to be physically active.

In the United States and Australia 37% of households own at least one dog (BIS Shrapnel Pty Limited, et al., 2003). Dog owners walk more (Bauman et al., 2001; Brown and Rhodes, 2006; Schofield et al., 2005; Thorpe et al., 2006) and are more likely than non-owners to achieve the recommended 150 min of moderate intensity physical activity per week (US Department of Health and Human Services, 1996). After controlling for demographic, environmental and intrapersonal differences, dog owners are 57% more likely than non-owners to be sufficiently active (Cutt et al., in press-b). It is possible that factors specifically related to dog ownership may influence physical activity levels in owners (Cutt et al., in press-b). This information may assist in developing future interventions designed to increase and maintain dog walking.

Dog size and a sense of obligation to walk a dog have been reported to be associated with dog owner physical activity (Brown and Rhodes, 2006; Schofield et al., 2005). Other potential dog-specific correlates considered important include number, health and type of dogs owned, level of attachment to the dog and dog-specific environmental and intrapersonal factors (Cutt et al., 2007; Ham and Epping, 2006; Schofield et al., 2005). For example, access to dog exercise areas and perceived barriers and motivators for walking with a dog could help explain why people do or do not walk with their dog.

It is likely that improved understanding of the correlates of dog owner physical activity could be achieved if there was a

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better match between the variables of interest and behavior (Giles-Corti et al., 2005b). Independent variables that specifically relate to dog ownership (e.g. dog attachment, number of dogs owned, access to dog exercise areas) may be more highly correlated with walking behavior that is also specific to dog ownership (i.e. dog walking vs. walking in general). This research uses a social–ecological model including components of the Theory of Planned Behavior (TPB) (Ajzen, 1991) to provide a holistic framework to guide research of dog owners' dog walking behavior (Cutt et al., in press-a). Social–ecological models (Stokols, 1992) that include constructs from theories of individual behavior change (for example, Duncan and Mummery, 2005; Li et al., 2005) provide the basis for a greater understanding of the influence of the environment on behavior and its interaction with individual factors such as those in the TPB.

To date, there appears to be no published studies examining factors that explain why some dog owners do not walk with their dog. This is important because up to 60% of dog owners do not walk with their dog (Bauman et al., 2001). Considering the potential of dog walking to increase community levels of physical activity, research is needed to understand what factors explain why so many owners fail to take their dog for regular walks. Investigation of the determinants of sedentary behaviors such as television viewing and electronic media use has proven useful in developing strategies to tackle physical inactivity (Hancox et al., 2004; Owen et al., 2000). Similarly, examining the factors associated with being a sedentary dog owner may assist in designing strategies to motivate these owners to begin walking with their dog. Thus, the aims of this paper are to examine differences between dog owners who do and do not walk with their dog and to identify factors associated with owners not walking with their dog. We hypothesized that owners who were less attached to their dog and who did not perceive their dog to be a source of motivation to walk would be less likely to walk with their dog.

Methods

Sample and procedure

The sample included dog owners participating in the first follow-up survey of participants in the RESIDential Environments (RESIDE) project, a 5-year longitudinal study evaluating the impact of a state–government sub-division code in Perth, Western Australia (Giles-Corti et al., 2006). Described fully elsewhere (Giles-Corti et al., in press), RESIDE involves new home owners self-completing a questionnaire before they move into their new home ($n=1813$), then 12 ($n=1379$) and 36 months later. All people building new homes in the study area were invited to participate (response rate 33.4%). RESIDE's first follow-up questionnaire was completed between October 2005 and December 2006 and included a survey tool completed by dog owners ($n=629$; 45.6%). This study was approved by The University of Western Australia's Human Research Ethics Committee.

Dogs and Physical Activity (DAPA) tool

The DAPA tool (Cutt et al., in press-a) is reliable and has face and construct validity (Cutt et al., in press-a). It was designed to measure the amount of physical activity people undertake with their dog and the individual and environmental factors affecting people walking with their dog (Cutt et al., in press-a). Briefly, the DAPA tool asks dog owners about the size, weight and the level of attachment they feel toward their dog(s). Owners record total minutes and frequency of walking or jogging with their dog(s) in the neighborhood in a usual week and who, if anyone, in the household usually walks with the dog(s). For this study, 'non-dog walkers' were defined as dog owners who reported zero minutes of walking with their dog in a usual week.

Sub-scales measuring dog-specific physical–environmental features of neighborhood parks (1=Strongly agree; 5=Strongly disagree) and perceived social support provided by a dog for walking (0=Never; 4=Very often, =3 times/week) were created for this study. Theory of Planned Behavior (TPB) constructs of attitude (behavioral belief strength: 1=Very unlikely; 7=Very likely), subjective norm (normative belief strength and motivation to comply: 1=Strongly disagree; 5=Strongly agree) and perceived behavioral control (control belief strength: 1=Very unlikely; 7=Very likely) were used to guide development of dog-specific sub-scales of these constructs using items from the DAPA tool. Intention to walk with a dog was not measured however 'Motivation provided by dog to walk more' was considered an indirect measure of a person's intention to walk with their dog. Furthermore, dog-specific items measuring outcome evaluation and control belief power were not measured. To optimize the predictive ability of variables only variables that specifically related to dog ownership or walking with a dog were included. Sub-scales were split at three even places along the scale and dichotomized into two groups. All sub-scales had good internal consistency (Cronbach's alpha: 0.74–0.87) and all items within each sub-scale had acceptable test–retest reliability (Cutt et al., in press-a). Theoretically important variables were retained in models even if they did not reach statistical significance because they were measuring an important construct and had face validity (Cutt et al., 2007).

Self-reported physical activity and walking

Self-reported physical activity was collected using the Neighborhood Physical Activity Questionnaire (NPAQ), which differentiates between walking within and outside of the neighborhood and has acceptable reliability (Giles-

Table 1
Physical activity characteristics of dog owners who walk and do not walk with their dog[a]

Characteristics	Walk with dog ($n=483$) mean (SD)	Do not walk with dog ($n=146$) mean (SD)	p value[b]
Minutes walk with dog/usual week	133.8 (112.8)	0.0	
Frequency walk with dog/usual week	4.0 (2.8)	0.0	
Main destinations usually walk with dog (%)			
Beach/river	12.8	–	
Park, oval or bushlands	54.9	–	
Streets (footpaths)	70.6	–	
Park, oval or bushlands and streets	30.4	–	
Minutes of total physical activity/usual week	356.5 (326.5)	210.9 (273.2)	**0.000**
Minutes of total walking/usual week	180.1 (161.4)	71.7 (108.9)	**0.000**
Minutes of walking for recreation in neighborhood/usual week[c]	134.4 (121.3)	41.3 (70.7)	**0.000**
% achieve 150 min/week physical activity	71.8	43.8	**0.000**
% achieve 150 min/week walking	50.3	19.9	**0.000**
Dog walking contribution to total physical activity (%)	37.5	–	
Dog walking contribution to total walking (%)	74.3	–	

[a] Dog owners participating in RESIDE first follow-up survey, Perth, Western Australia, 2005–2006.
[b] Bold p values significant at $p \leq 0.05$.
[c] Fourteen cases missing data.